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Review

Analysis of large-scale gene expression data

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Abstract

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Knowledge Enhancement in the Life Sciences

The advent of cDNA and oligonucleotide microarray technologies has led to a paradigm shift in biological investigation, such that the bottleneck in research is shifting from data generation to data analysis. Hierarchical clustering, divisive clustering, self-organizing maps and k-means clustering have all been recently used to make sense of this mass of data.
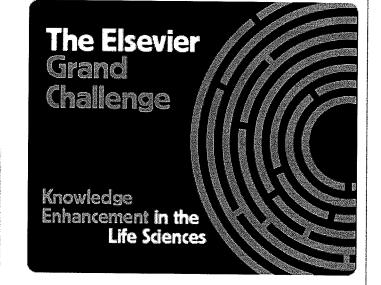
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Author Keywords: Data analysis; Gene expression; Microarrays; Agglomerative clustering; Divisive clustering; Self-organizing maps; K-

means clustering

Subject-index terms: Immunology; Biotechnology; Techniques and methods; Bioinformatics

Nomenclature

SOM

self-organizing map

Article Outline

- Nomenclature
- Introduction
  - Suitable metrics
  - Agglomerative clustering
  - Divisive clustering
  - Partitioning of data
  - Self-organizing maps
  - K-means clustering
- Correlating expression data to other information
- Conclusions and future prospects
- Update
- Acknowledgements
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